

## CLAIMS

- 5 1. A solid glass composite matrix comprising glass granules and a binder resin which has set to bind the granules into a solid composite.
- 10 2. A solid glass composite matrix according to claim 1, wherein the glass granules comprise between 40% and 90% w/w of the composite matrix.
- 15 3. A solid glass composite matrix according to either of claims 1 or 2, wherein other bulking sources are added to the resin to top up the glass level.
- 20 4. A solid glass composite matrix according to any preceding claim, wherein the level of glass granules is higher than 60% w/w of the composite matrix.
5. A solid glass composite matrix according to any preceding claim, wherein the glass granules are derived from waste glass.
- 25 6. A solid glass composite matrix according to any preceding claim, wherein the glass granules in the matrix have a grain size substantially between 0.0mm and 20.0mm.
- 30 7. A solid glass composite matrix according to any preceding claim, wherein at least 50% w/w of the glass composite matrix comprises glass granules of grain size 0mm-6mm.

8. A solid glass composite matrix according to any preceding claim, wherein, at least 10% w/w of the glass composite matrix comprises glass granules of grain size 0mm-4mm.
9. A solid glass composite matrix according to any preceding claim, wherein at least 10% w/w of the glass composite matrix comprises glass granules of grain size, 4mm-6mm.
10. A solid glass composite matrix according to any preceding claim, wherein granules between 6-10mm are present at a level less than 50% w/w.
11. A solid glass composite matrix according to any preceding claim, wherein the matrix is ground after setting to provide a finish.
12. A solid glass composite matrix according to any preceding claim, wherein the binder resin comprises between 5% w/w and 20% w/w of the composite matrix.
13. A solid glass composite matrix according to any preceding claim, wherein the resin is polymeric and requires a curing agent or initiator to set.
14. A solid glass composite matrix according to any preceding claim, wherein a coupling agent is present in the composite, to couple the glass and resin components together during setting of the composite.

15. A solid glass composite matrix according to claim 14,  
wherein the coupling agent is a silane coupling agent.
- 5 16. A solid glass composite matrix according to either of  
claims 14 or 15, wherein the coupling agent is  
selected from a suitable silane, titanate ester or  
zirco-aluminate.
- 10 17. A solid glass composite matrix according to any  
preceding claim, wherein the resin is selected from  
any suitable binder resin including epoxy resins,  
polyurethane binders, unsaturated polyester binders  
and poly C<sub>1</sub>-C<sub>2</sub> alkyl methacrylate binders.
- 15 18. A solid glass composite matrix according to any  
preceding claim, wherein a reactive diluent is added  
to suit viscosity requirements.
- 20 19. A solid glass composite matrix according to claim 18,  
wherein the reactive diluents comprise mono-functional  
or di-functional aliphatic or cycloaliphatic glycidyl  
ethers or esters.
- 25 20. A solid glass composite matrix according to either of  
claims 18 or 19, wherein the diluent is present at a  
level of 5-30% of the pre-cured resin.
- 30 21. A solid glass composite matrix according to any of  
claims 14 to 20, wherein the coupling agent is present  
in the pre-cured resin at a level of 0.1-4.0% w/w.

22. A solid glass composite matrix according to any of claims 13 to 21, wherein the curing agent is a UV stable moiety.
- 5 23. A solid glass composite matrix according to any of claims 14 to 22, wherein the ratio of glass granules to binder resin and coupling agent is in the range of 6:1 to 3:1.
- 10 24. A method of producing a glass composite comprising the steps of:-  
contacting an aggregate of glass granules of average grain size less than 10mm with a binder resin,  
mixing the granules into the un-set resin,  
15 and allowing the resin to set so that the resin sets the granules into a solid composite matrix.
- 20 25. A solid glass composite matrix according to any preceding claim, wherein the glass granules for screening applications has lead or barium or combined lead/barium levels at at least 3% by weight.
- 25 26. A solid glass composite matrix according to claim 25, wherein, the lead or barium levels or combined lead/barium levels for such applications are in the range 10-70% by weight in the glass granules.